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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,634	11/10/2003	Brian E. Cron	MI22-2431	4807

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EXAMINER

OJINI, EZIAMARA ANTHONY

ART UNIT PAPER NUMBER

3723

DATE MAILED: 11/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/705,634

Applicant(s)

CRON, BRIAN E.

Examiner

Anthony Ojini

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 29-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 01/28/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

Applicant's cancellation of **claims 1-28** in filed 11/10/03 is acknowledged.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claim 31 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 31, line 2, change the term "that that" to ---that---.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29, 30, 31 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Applicant Admitted Prior Art (AAPA)** in view of **Inoue et al.** (6,443,816 B2).

**With respect to claim 29**, AAPA discloses an apparatus for conditioning a surface of a polishing pad after chemical-mechanical polishing of a semiconductor substrate with the pad surface (18), comprising a conditioning disk (24).

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**AAPA** fails to disclose a steam outlet port proximate the conditioning stone, the steam outlet port being configured to jet steam onto the pad surface during the conditioning of the pad surface.

**Inoue et al.** disclose a steam outlet nozzles (7-1 to 7-4) being configured to jet steam onto the pad surface during the conditioning of the pad (see col. 3, lines 25-51 & fig. 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of **AAPA** with steam jet nozzles being configured to jet steam onto the pad surface during the conditioning of the pad surface in view of **Inoue et al.** so as to dislodge and remove particulates embedded in the pad.

**With respect to claim 30**, **AAPA** discloses wherein the polishing pad is configured for utilization in web chemical-mechanical polishing tool (**fig. 2**).

**With respect to claim 31**, **AAPA** fails to disclose a jet steam onto the pad surface such that the steam impacts the surface with a pressure of from about 10 psi to 20 psi.

**Inoue et al.** disclose a steam outlet port (7-1 to 7-4), the steam outlet port being configured to jet steam onto the pad surface such that the steam impacts the surface with a pressure of from about 0.01 Mpa (1.45 psi) to 0.7 Mpa (101 psi).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of **AAPA** with steam jet nozzles being configured to jet steam onto the pad surface such that the steam impacts the surface with a pressure of from about 0.01 Mpa (1.45 psi) to 0.7 Mpa (101 psi) in view of **Inoue et al.** so as to dislodge and remove particulates embedded in the pad.

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**With respect to claim 33**, AAPA fails to disclose a source of steam in fluid communication with the steam outlet.

**Inoue et al.** disclose a source of steam (4) in fluid communication with the steam outlet (see fig 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of **AAPA** with a source of steam in fluid communication with the steam outlet in view of **Inoue et al.** so as to ensure predetermined amount of steam is sprayed onto the surface of the pad from the steam outlet port.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Applicant Admitted Prior Art (AAPA)** in view of **Inoue et al.** as applied to claim 29 above, and further in view of **Franca et al.** (6,217,422 B1).

**With respect to claim 32**, AAPA fails to disclose wherein a steam outlet port is configured to move relative to the pad surface as steam is jetted out of the port and against the pad surface.

**Inoue et al.** disclose a steam outlet port (7-1 to 7-4), the steam outlet port being configured to jet steam onto the pad surface during the conditioning of the pad (see col. 3, lines 25-51 & fig. 1).

**Franca et al.** disclose an outlet port (30) that is configured to move relative to a pad surface (28) as liquid is jetted out of the port and against the pad surface.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of **AAPA with** a steam outlet port that is configured to move relative to the pad surface as steam is jetted out of the port and against the pad surface in view of Inoue et al and Franca et al. so as to dislodge and remove particles from the entire surface of the pad.

Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Applicant Admitted Prior Art (AAPA)** in view of Inoue et al. as applied to claim 33 above, and further in view of Lorimer (6,589,878 B1).

**With respect to claims 34,35**, AAPA fails to disclose ammonium and ammonium citrate within a steam.

**Lorimer** discloses a mixture of steam and ammonia but fail to teach ammonium and ammonium citrate within a steam.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of **AAPA with** a mixture of steam with ammonia in view of Lorimer so as to remove particle contaminates.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of **AAPA with** ammonium and ammonium citrate within a steam **so as to dislodge and remove particles from the entire surface of the pad**, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. See also *Ballas Liquidating Co. v. Allied industries of Kansas, Inc.* (DC Kans) 205 USPQ 331.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nishimura et al. disclose polishing and cleaning that include a steam.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Ojini whose telephone number is 703 305 3768. The examiner can normally be reached on 7 to 4 Tuesday-Friday with every other Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 703 308 2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

